

CLAIMS

Sub B1
 5 ~~1. A telecommunications system, including an asynchronous transfer mode ATM network, and a plurality of adaptive grooming routers coupled to the network, wherein the adaptive grooming routers each provide the functionality of a single fabric switch (SFS) arranged to adapt narrow-band traffic to and from the ATM adaptation layer, and wherein the adaptive grooming routers comprise a group adapted to function as a single distributed or virtual transit exchange whereby in~~
 10 ~~use to set up narrow band connections across the ATM network.~~

2. A telecommunications system as claimed in claim 1, wherein a plurality of local exchanges are coupled to the network and wherein the
 15 local exchanges are dual homed to the network.

3. A telecommunications system as claimed in claim 2, wherein the network incorporates means for load balancing of traffic originating from the local exchanges.

20 4. A telecommunications system as claimed in ^{Claim 1} ~~any one of claims 1 to 3~~, wherein the virtual transit exchange comprising the AGRs incorporates independent connection control and call routing functions.

25 5. A telecommunications system as claimed in ^{Claim} ~~4~~, wherein the call routing function is adapted to perform a selection of potential voice routes and to prioritise that selection.

30 6. A telecommunications system as claimed in claim 5, wherein said prioritisation is performed from an assessment of congestion of said potential voice routes.

35 7. A telecommunications system as claimed in claim 4, ~~5 or 6~~, wherein the service and connection aspects of the connection control function are separated whereby to facilitate support of advanced services and a plurality of connection models.

8. A telecommunications system as claimed in claim 5, ~~6 or 7~~, wherein said call routing function incorporates means for determining availability of a destination and for rejecting at source traffic to that destination in the event that the destination is unavailable.

9. A telecommunications system as claimed in ^{claim 1} ~~any one of the preceding claims~~ and incorporating means for providing a narrow band multicast function.

10. A telecommunications system as claimed in ^{claim 1} ~~any one of the preceding claims~~ and incorporating means for voice path tracing whereby to effect failure recovery.

~~11. An ATM telecommunications system, comprising a distributed virtual transit exchange and having means for determining the current traffic status of the system whereby to effect routing of narrow band traffic across the system.~~

12. A telecommunications system, including an asynchronous transfer mode (ATM) network having uncommitted bandwidth, and a plurality of adaptive grooming routers (AGR) coupled to the network, wherein the adaptive grooming routers each provide the functionality of a single fabric switch (SFS) arranged to adapt narrow-band traffic to and from the ATM adaptation layer, wherein the AGRs comprise a group adapted to function as a virtual transit exchange whose fabric and control are distributed over the group, wherein the the virtual transit exchange comprising the AGRs incorporates independent connection control and call routing functions, and wherein the system incorporates means for determining the current system status whereby in use to set up narrow band connections across the ATM network based on that status determination.

13. A method of routing narrow band traffic in a ATM telecommunications system comprising a distributed virtual transit

exchange, the method including determining the current traffic status of the system whereby to effect said narrow band traffic routing.

~~14. A method of routing telecommunications traffic in a system, including an asynchronous transfer mode (ATM) network having uncommitted bandwidth, and a plurality of adaptive grooming routers (AGR) coupled to the ATM network, , wherein the adaptive grooming routers each provide the functionality of a single fabric switch (SFS) arranged to adapt narrow-band traffic to and from the ATM adaptation layer, and wherein the AGRs comprise a group adapted to function as a virtual transit exchange whose fabric and control are distributed over the group, the method including determining the current system status whereby to set up narrow band connections across the ATM network based on that status determination.~~

15. A method as claimed in claim 14, wherein a plurality of local exchanges are dual homed to the network.

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~~16.~~ A method as claimed in claim ¹²~~14~~ or 15, wherein a set of potential voice routes are determined for a connection and wherein a prioritisation of said routes is performed from an assessment of congestion of said potential voice routes.

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~~17.~~ A method as claimed in claim ¹³~~16~~, wherein the availability of a destination is determined and traffic to that destination is rejected at source in the event that the destination is unavailable.

add B-H